What is claimed:

1. A method for producing an optically transparent and electrically conductive coating onto an optically transparent substrate, said method comprising:

(a) operating twin-wire arc nozzle means to heat and at least partially vaporize two wires of a metal composition for providing a stream of nanometer-sized vapor clusters of said metal composition into a chamber in which said substrate is disposed;

(b) introducing a stream of oxygen-containing gas into said chamber to impinge upon said stream of metal vapor clusters and exothermically react therewith to produce substantially nanometer-sized metal oxide clusters; and

(c) directing said metal oxide clusters to deposit onto said substrate for forming said coating.

2. The method as set forth in claim **1**, further comprising a step of operating a separate plasma arc means for vaporizing any un-vaporized metal after step (a) and before step (b).

3. The method as set forth in claim **1**, further comprising a step of operating a separate plasma arc means for vaporizing any un-vaporized metal oxide clusters after step (b) and before step (c).

4. The method as set forth in claim **1**, **2**, or **3**, wherein said metal composition comprises at least one metallic element selected from the low melting point group consisting of bismuth, cadmium, antimony, cesium, gallium, indium, lead, lithium, rubidium, tin, and zinc.

5. The method as set forth in claim **1**, **2**, or **3**, wherein said metal composition comprises indium and tin elements.

6. The method as set forth in claim **1**, **2**, or **3**, wherein said stream of oxygen-containing gas further comprises a gas selected from the group consisting of argon, helium, hydrogen, carbon, nitrogen, chlorine, fluorine, boron, sulfur, phosphorus, selenium, tellurium, arsenic and combinations thereof.

7. The method as set forth in claim **1**, **2**, or **3**, wherein said transparent substrate comprises a train of individual pieces of glass or plastic being moved sequentially or concurrently into said chamber and then moved out of said chamber after said coating is formed.

8. The method as set forth in claim **1**, **2**, or **3**, wherein said metal composition comprises an alloy of at least two metallic elements.

9. The method as set forth in claim **1**, **2**, or **3**, wherein said stream of oxygen-containing gas reacts with said metal vapor clusters in such a manner that the reaction heat released is used to sustain the reaction until most of said metal vapor clusters are substantially converted to nanometer-sized oxide clusters.

10. The method as set forth in claim **1**, **2**, or **3**, wherein said stream of oxygen-containing gas is pre-heated to a predetermined temperature prior to being introduced to impinge upon said metal vapor clusters.

11. A system for producing a transparent electrically conductive coating onto a substrate, said system comprising

(a) a coating chamber,

(b) a twin-wire electrode device in supplying relation to said chamber for supplying nano-scaled clusters of a metal composition therein, said electrode device comprising

(i) two wires made up of said metal composition, with each wire having a leading tip which is continuously or intermittently fed into said chamber in such a fashion that the two leading tips are maintained at a desired separation; and

(ii) means for providing electric currents and a working gas flow for creating an ionized arc between the two leading tips for melting and vaporizing said metal composition to generate said nano-scaled metal clusters; ;

(c) gas supply means disposed a distance from said chamber for supplying a reactive gas into said chamber to react with said nano-scaled metal clusters therein for forming substantially nanometer-sized metal compound or ceramic clusters; and

(d) supporting-conveying means to support and position said substrate into said chamber, permitting said metal compound or ceramic clusters to deposit and form a coating onto said substrate.

12. The system as defined in claim **11**, further including a second plasma arc zone below said ionized arc to vaporize any un-vaporized metal composition dripped therefrom.

13. The system as defined in claim **11** or **12** further including wire feed and control means to regulate the feed rates of said two wires.

14. The system as defined in claim **11** or **12** wherein said means for providing electric currents comprises an electric power supply selected from the group consisting of a high-voltage source, a high-current source, a pulsed power source, and combinations thereof.

15. The system as defined in claim **11** or **12** further including means for controlling the flow rate of said reactive gas, thereby enabling change of the coating rate.

16. The system as defined in claim **11** or **12** wherein said reactive gas comprises a gas selected from the group consisting of nitrogen, phosphorus, arsenic, oxygen, sulfur, selenium, tellurium, fluorine, chlorine, bromine, iodine, a carbon-containing gas, and mixtures thereof.

17. The system as defined in claim **11** or **12** wherein said working gas is selected from the group consisting of nitrogen, hydrogen, noble gases and mixtures thereof.

18. The system as defined in claim **11** or **12** further including means for providing dissociable inert gas mixable with said working gas, the dissociable inert gas increasing the temperature gradient in said ionized arc.